

Applicants' remarks and amendments, filed on May 12, 2010, have been carefully considered. Claims 3, 4, and 7 have been canceled; new claims 28-31 have been added.

Claims 1, 2, 5, 6, 8, and 11-31 are now pending in this application.

### ***Priority***

1. Receipt is acknowledged of papers submitted under 35 U.S.C. 119(a)-(d), which papers have been placed of record in the file.

Applicants' Priority Document was filed on February 17, 2006.

### ***Withdrawn Rejections***

The following rejections of record have been withdrawn in view of Applicants' (a) amendments to the pending claims and (b) persuasive arguments traversing said rejections of record:

a. The 103(a) rejection of claims 1, 4, 5, 8, 11, and 12 as being unpatentable over Minoura et al. (Japanese Publication No. 10-092422);

b. The 103(a) rejection of claims 1-5 and 7-11 as being unpatentable over Ogura et al. (U. S. Patent No. 6,171,727); and

c. The 103(a) rejection of claims 1, 12-21, and 24-27 as being unpatentable over Klassen et al. (U. S. Patent No. 6,752,881) in view of Minoura et al. (Japanese Publication No. 10-092422).

### EXAMINER'S AMENDMENT

2. An examiner's amendment to the record appears below. Should the changes and/or additions be unacceptable to applicant, an amendment may be filed as provided by 37 CFR 1.312. To ensure consideration of such an amendment, it MUST be submitted no later than the payment of the issue fee.

Authorization for this examiner's amendment was given in a telephone interview with Jonathan Goodman on July 15, 2010.

*The application has been amended as follows:*

*a. Please re-write claim 1 as follows:*

*Claim 1 (Currently Amended). Metalliferous, hydrogen-storing material, comprising*

*a metal for the taking up and releasing of hydrogen, said metal exhibiting a nanocrystalline structure, and*

*a catalyzing agent for the taking up and releasing of hydrogen by the metal, wherein the catalyzing agent is a metal carbonate which also exhibits a nanocrystalline structure, wherein the metal carbonate is the carbonate of a metal selected from the group consisting of Sc, Ti, V, Cr, Mn, Fe, Co, Ni, Cu, Zn, Ga, Ge, Y, Zr, Nb, Mo, Tc, Ru, Rh, Pd, Ag, Cd, In, Sn, La, Hf, Ta, W, Re, Os, Ir, Pt, Au, Hg, Tl, Pb, Ce, Pr, Nd, Pm, Sm, Eu, Gd, Tb, Dy, Ho, Er, Tm, Yb, Lu, Th, Pa, U, Np, Pu, Am, Cm, Bk, Cf, Es, Fm, Md, No, Lw, and mixtures thereof, and wherein the metalliferous material comprises a homogeneous distribution of the metal and the catalyzing agent.*

*b. Please cancel claim 5.*

The subject matter of claim 5 has been incorporated into claim 1 to further distinguish the claimed metal carbonate by excluding calcium carbonate, which is disclosed in Minoura et al.

***Allowable Subject Matter***

3. Claims 1, 2, 6, 8, and 11-31 are allowed.

***Reasons for Allowance***

4. The following is an examiner's statement of reasons for allowance:

The prior art of record does not teach or suggest the claimed metalliferous, hydrogen-storing material, comprising

a metal for the taking up and releasing of hydrogen, said metal exhibiting a nanocrystalline structure, and

a catalyzing agent for the taking up and releasing of hydrogen by the metal, wherein the catalyzing agent is a metal carbonate which also exhibits a nanocrystalline structure, wherein the metal carbonate is the carbonate of a metal selected from the group consisting of Sc, Ti, V, Cr, Mn, Fe, Co, Ni, Cu, Zn, Ga, Ge, Y, Zr, Nb, Mo, Tc, Ru, Rh, Pd, Ag, Cd, In, Sn, La, Hf, Ta, W, Re, Os, Ir, Pt, Au, Hg, Tl, Pb, Ce, Pr, Nd, Pm, Sm, Eu, Gd, Tb, Dy, Ho, Er, Tm, Yb, Lu, Th, Pa, U, Np, Pu, Am,

Cm, Bk, Cf, Es, Fm, Md, No, Lw, and mixtures thereof, and wherein the metalliferous material comprises a homogeneous distribution of the metal and the catalyzing agent.

Minoura et al. do not teach or suggest the metal carbonates recited in Applicants' now-canceled claim 5, which has been incorporated into claim 1. Ogura et al. do not teach or suggest a homogeneous distribution of the metal and the catalyzing agent (this reference teaches a layer containing at least carbonate covering a hydrogen storage alloy). The combined teachings of Klassen et al. and Minoura et al. do not teach or suggest the claimed invention because Klassen et al. do not teach or suggest the employment of metal carbonates.

Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably accompany the issue fee. Such submissions should be clearly labeled "Comments on Statement of Reasons for Allowance."

### ***Conclusion***

Any inquiry concerning this communication or earlier communications from the examiner should be directed to PATRICIA L. HAILEY whose telephone number is (571)272-1369. The examiner can normally be reached on Mondays-Fridays, from 7:00 a.m. to 3:30 p.m.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Melvin C. Mayes, can be reached on (571) 272-1234. The fax

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phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/PATRICIA L. HAILEY/  
Primary Examiner, Art Unit 1793  
July 15, 2010